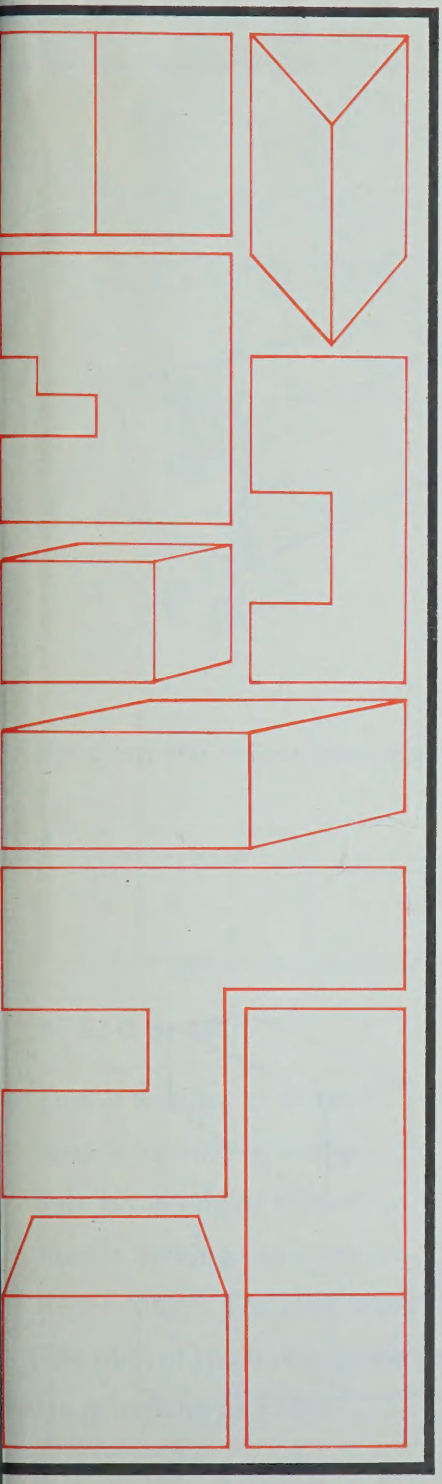


LET'S MAKE MAPS

A Pre-Atlas Workbook

Metric Edition

COLLINS LONGMAN

My name is

.....

My school is

.....

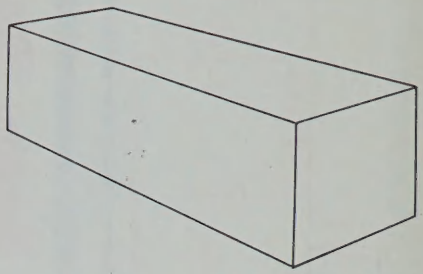
My class is

.....

Can your teacher find a large, long box?

Paste coloured paper on the sides and top.
Use one colour for the two long sides.
Use another colour for the two short sides.
Use a third colour for the top of the box.

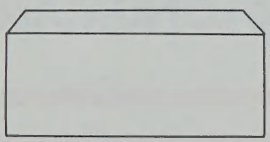
Have a good look at the large box in front of you.

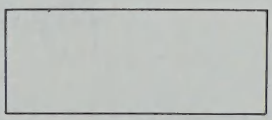


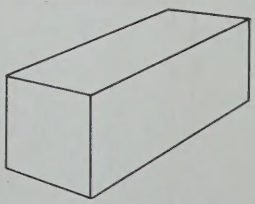
Now colour this picture, using the same colours as are on the large box.

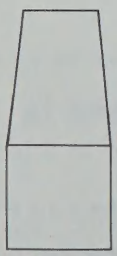
Move round your box. Stand up. Kneel down.
Notice the different shapes you can see.

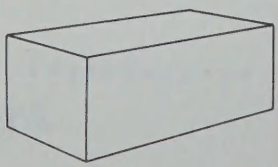
Colour these shapes when you have seen them.
Use the colours which you see on the large box.

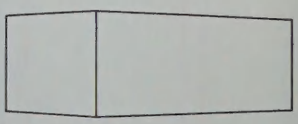




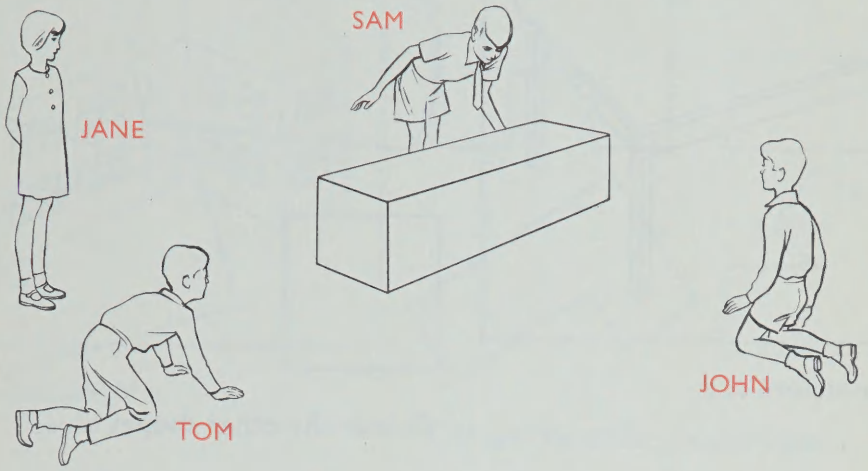




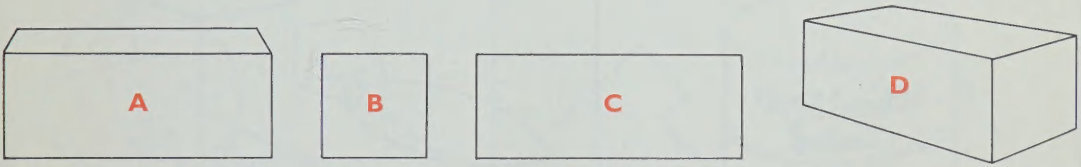




Now look at this picture.
The four children are all seeing different shapes.



Here are the shapes they are looking at.



A, B, C or D?

Tom is looking at shape..... . Colour his shape blue.

John is looking at shape..... . Colour his shape green.

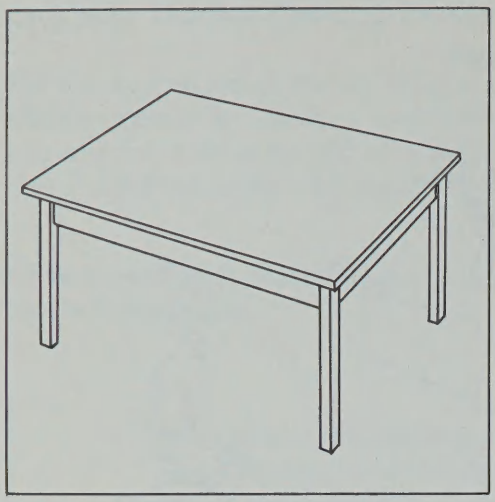
Sam is looking at shape..... . Colour his shape red.

Jane is looking at shape..... . Colour her shape yellow.

Remember: The plan is the shape of an object looked at from above.

The plan of the box is being seen by.....

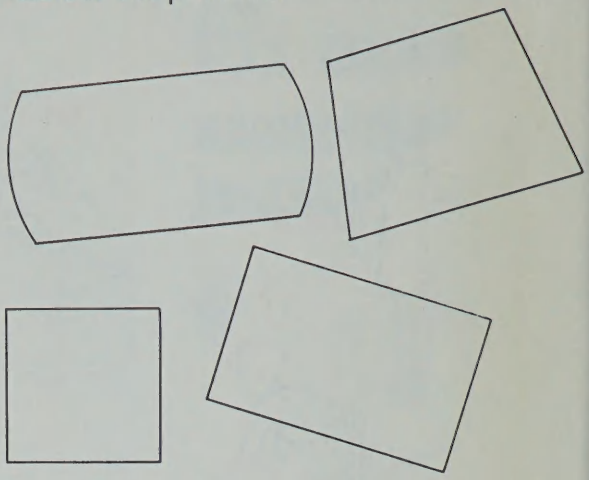
He is looking at shape..... .



This is a picture of a

.....

Which is the plan of the table?
Colour the plan red.

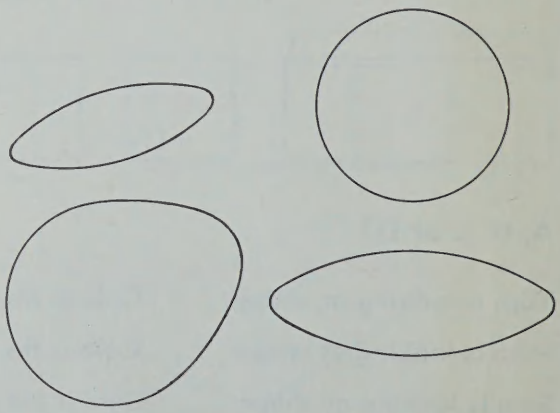


Colour the other shapes blue.

This is a picture of a

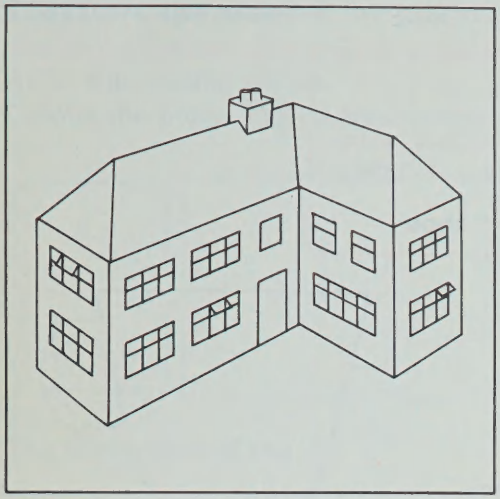
.....

Which is the plan of the tin of fruit?
Colour the plan red.



Colour the other shapes blue.

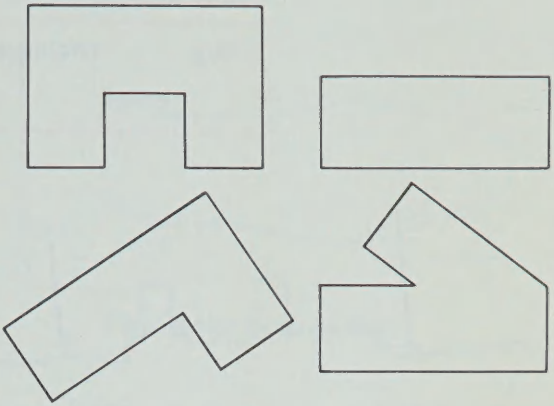
Colour the two big pictures. Use what colours you like.



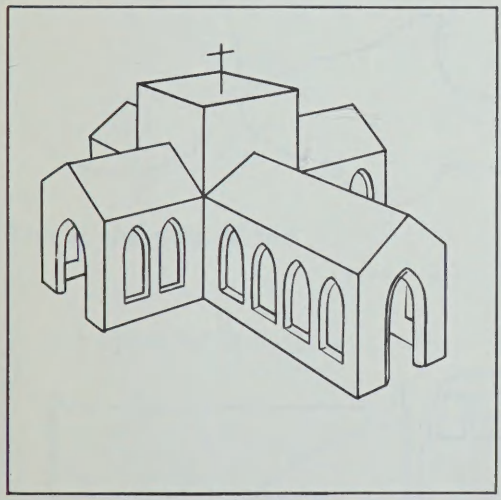
This is a picture of a

.....

Which is the plan of the house?
Colour the plan red.



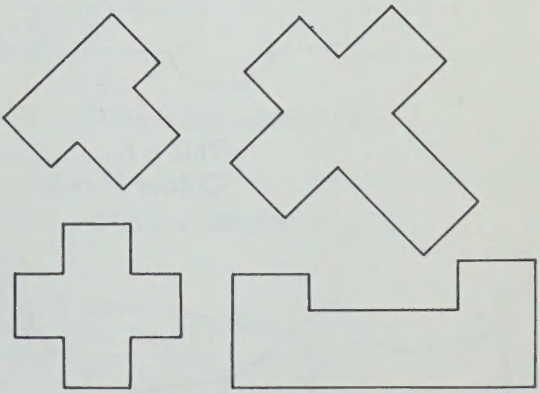
Colour the other shapes blue.



This is a picture of a

.....

Which is the plan of the church?
Colour the plan red.



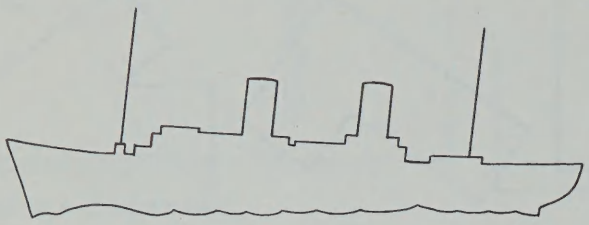
Colour the other shapes blue.

Remember: The plan shows the shape of an object looked at from above.

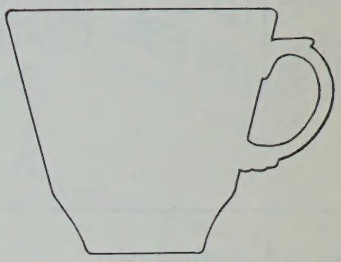
This is a page of picture shapes.

Fill in the missing words. Colour the pictures.

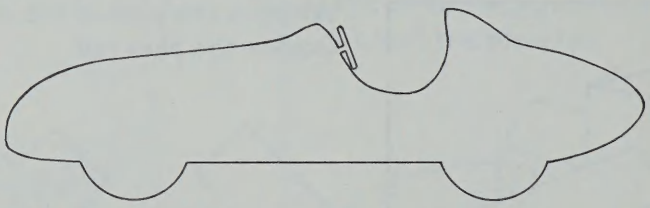
cup	racing car	ship
truck	shoe	



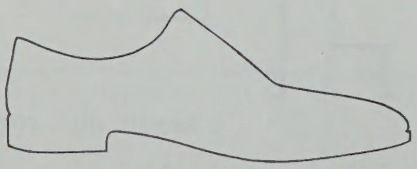
This is a .....
Colour it blue.



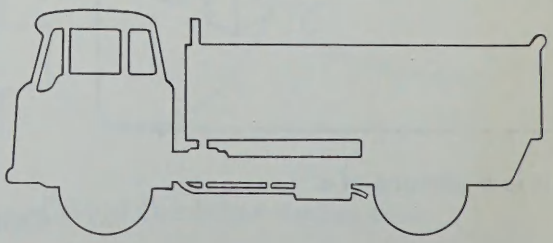
This is a .....
Colour it yellow.



This is a .....
Colour it red.



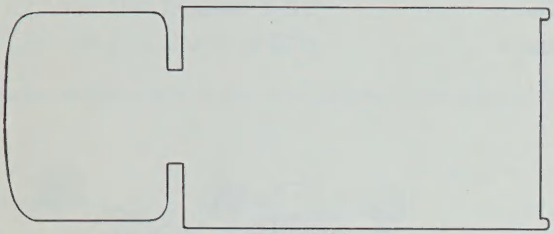
This is a .....
Colour it brown.



This is a .....
Colour it green.

These are the plans of the picture shapes.

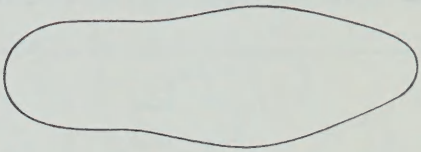
Fill in the missing words.
Colour the plans. Match each colour with its picture shape.



This is the plan of the

.....

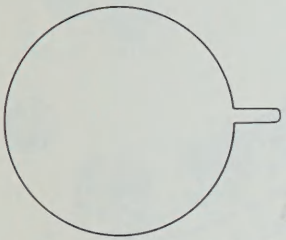
I have coloured it .....



This is the plan of the

.....

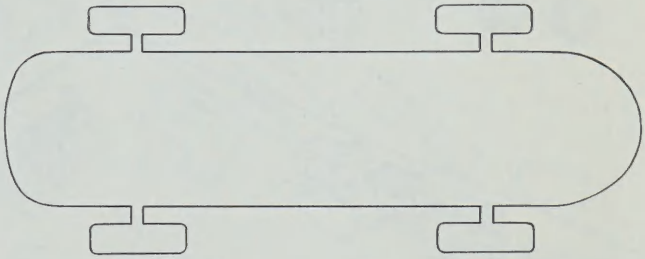
I have coloured it .....



This is the plan of the

.....

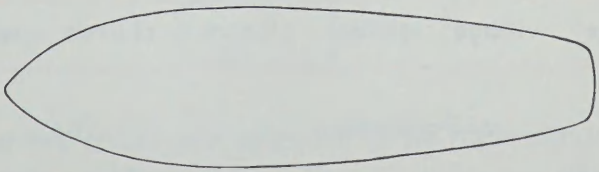
I have coloured it .....



This is the plan of the

.....

I have coloured it .....

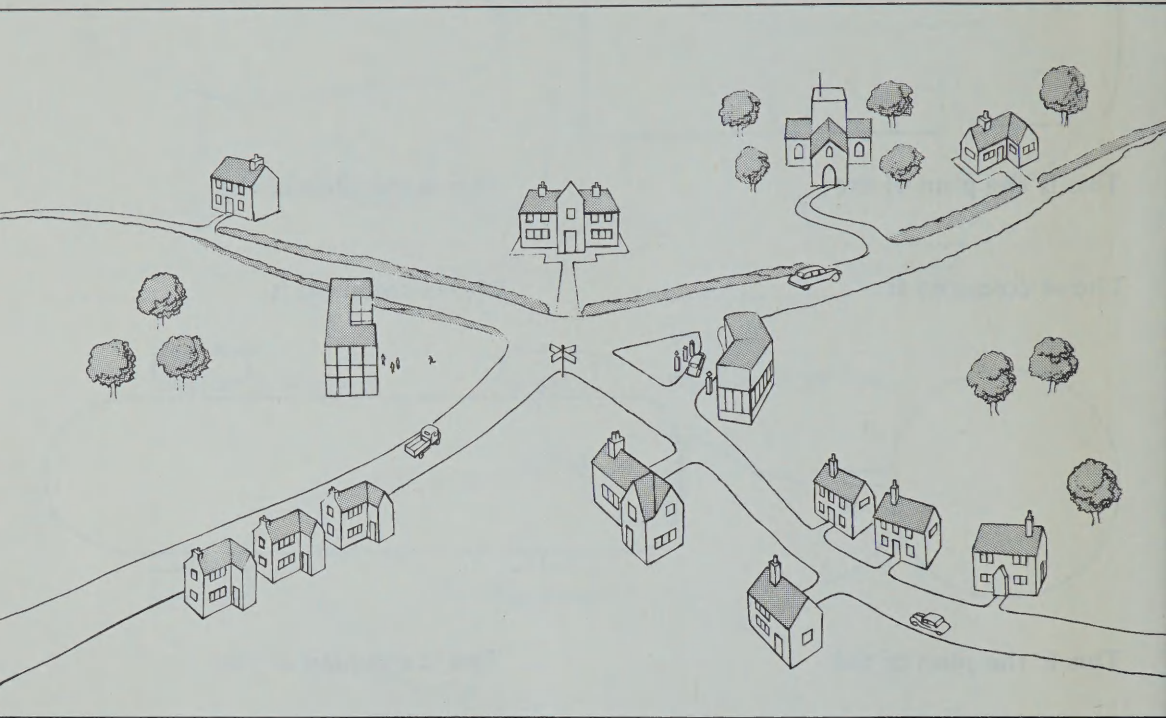


This is the plan of the .....

I have coloured it .....

This is a picture of Porkwell village.

Find the church. Point to it.
Find the garage. Point to it.
Find the school. Point to it.
How many houses are there? Count them .....
How many big trees are there? Count them .....



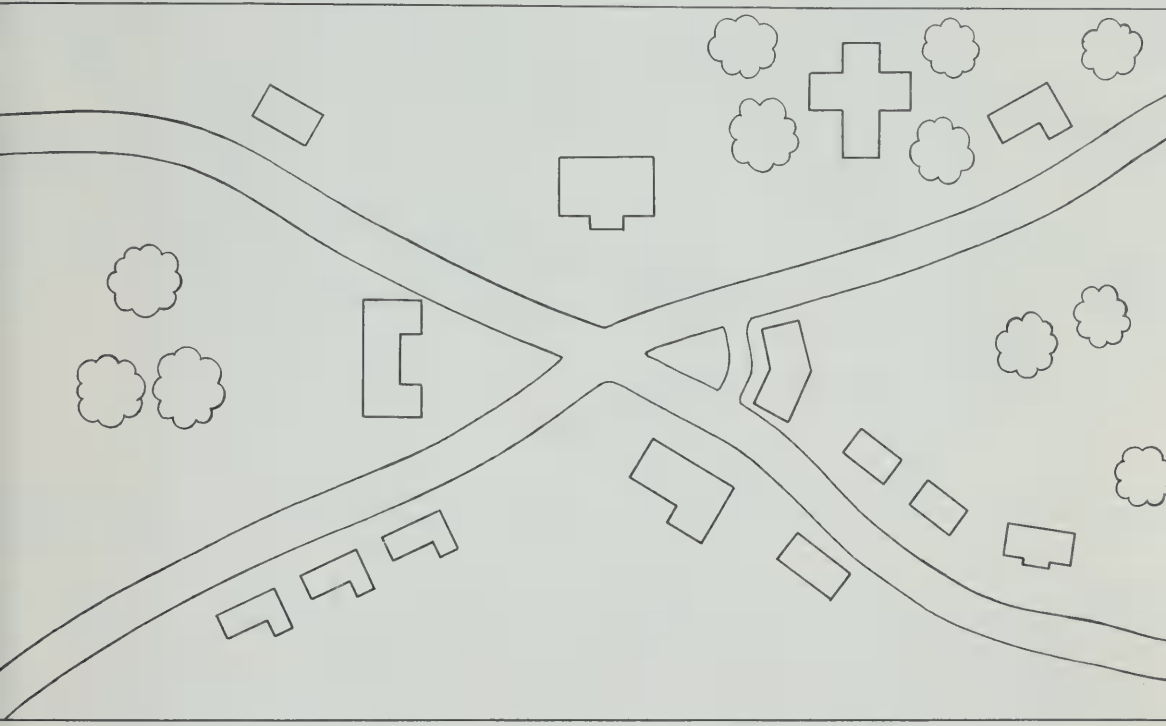
Fill in the missing words.

trees	garage	village	three	picture	church	middle	school

This is a ..... of Porkwell ..... The ..... is by the crossroads in the ..... of the village. There are ..... big trees behind it. There are petrol pumps by the ..... There are four ..... round the .....

This is a plan of Porkwell village.

Colour the school red.
Colour the church blue.
Colour the garage yellow.
Colour the houses black.
Colour the trees green.



Garage Church School

Houses Trees

Look at the colour key under your plan. Fill in the right colours.

Think: Why does your plan need a colour key? Tell your teacher.

Now colour the picture of Porkwell village on page 8.
Use any colours you like.

This is a picture of Hamwell village.

Read about Hamwell village. Fill in the missing words.

pond	church	nine	stream	three	bridge

Hamwell is a small village. It has only ..... big buildings and ..... small houses. A small ..... runs through the village, and there is a ..... in the village green. The road crosses the stream over a little .....

The three biggest buildings in the village are the ....., the village hall and the farmhouse.

Make your own plan of Hamwell village.

Begin by colouring the stream and the pond. Colour them blue.

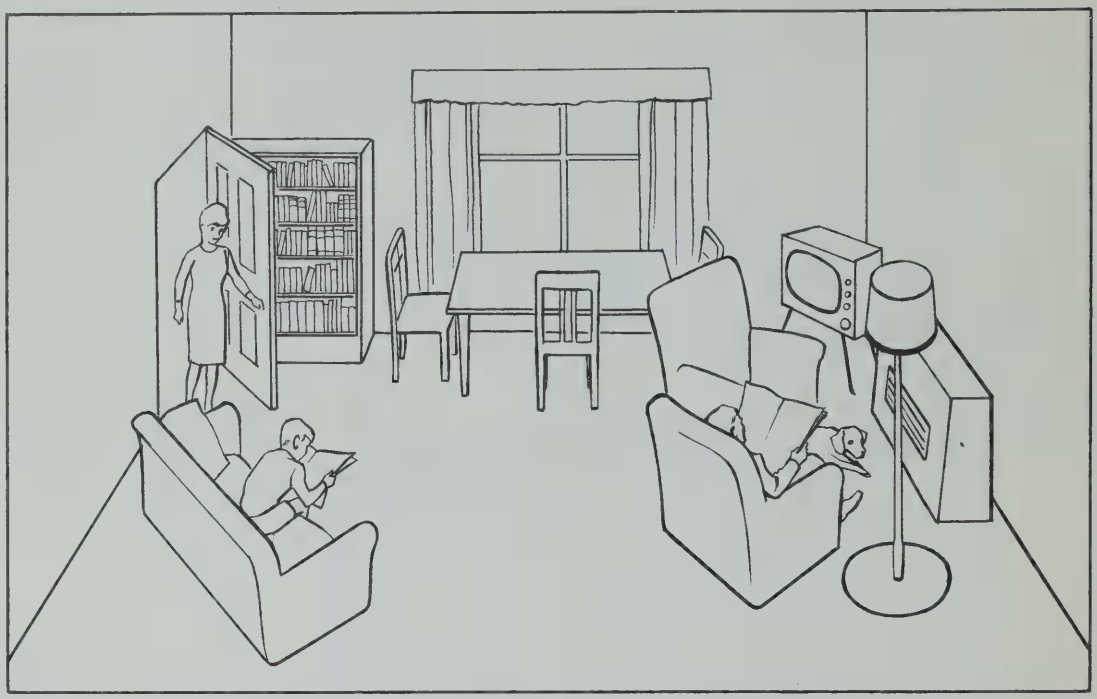
Now put in the three big buildings. Use squares like this: 

Where will you put the church? Colour your square red.
Where will you put the farmhouse? Colour your square brown.
Where will you put the village hall? Colour your square yellow.

Now put in the nine smaller houses. Use smaller squares like this: 
Colour the small squares black.

Finish your plan by putting in the big trees. Use shapes like this: 
Colour the tree-shapes green.

This is a picture of a sitting room.



Complete the sentences. Write in the missing words.

bookcase	lamp	small	TV set	table	easy

The ..... is next to the window.

The ..... is between the door and the window.

The ..... is by the fireplace.

The ..... chairs are by the table.

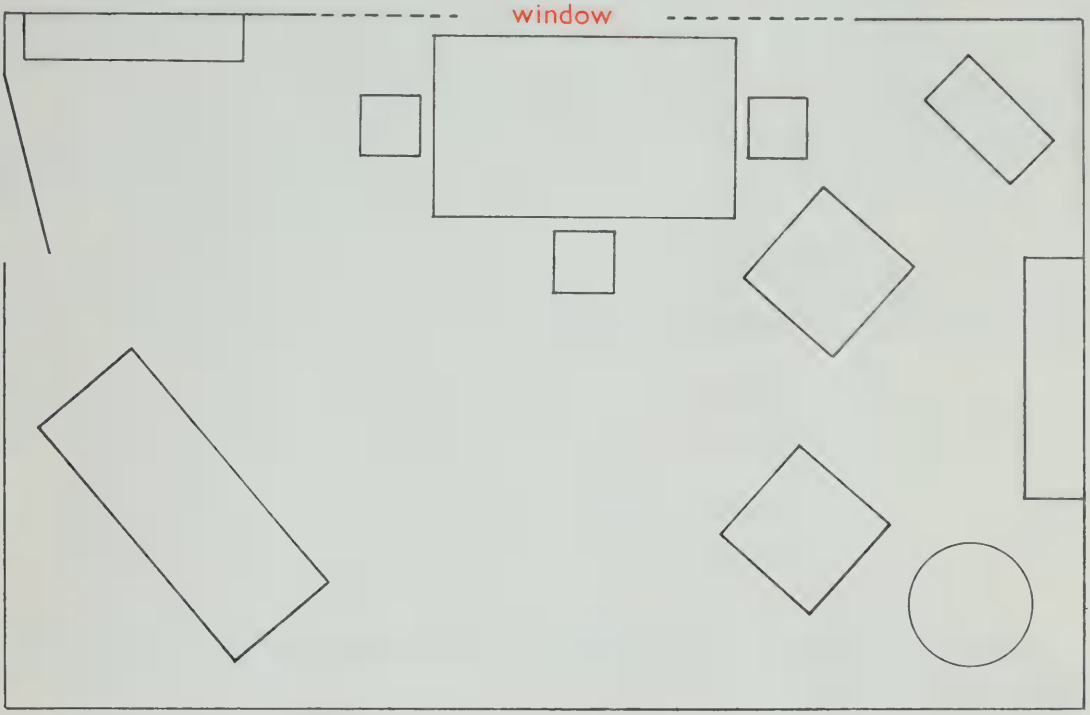
The ..... is in the corner of the room.

The ..... chairs are in front of the fire.

Where is the settee? Point to it.

Now colour the picture. Use what colours you like.

This is a plan of the sitting room.



Small chairs	Easy chairs	Book case	Fireplace
Settee	Table	TV set	Lamp

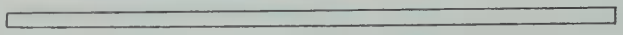
Fill in your colour key first. Use eight different colours.

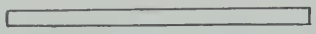
Think: Why does your plan need a colour key? Remember that there are no words on your plan.

Now colour the plan. Use the right colours to match your colour key.

Where are the small chairs? Colour them.
Where are the easy chairs? Colour them.
Where is the bookcase? Colour it.
Where is the fireplace? Colour it.
Where is the table? Colour it.
Where is the lamp? Colour it.
Where is the TV set? Colour it.
Where is the settee? Colour it.

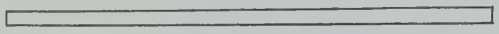
Measure these lines.

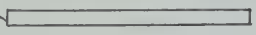
 Colour this line red.

 Colour this line blue.

The red line is ..... cm long.

The blue line is ..... cm long.

 Colour this line red.

 Colour this line blue.

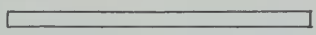
The red line is ..... cm long.

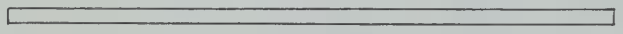
The blue line is ..... cm long.

The ..... lines are twice as long as the ..... lines.

The ..... lines are half as long as the ..... lines.

Measure these lines.

 Colour this line green.

 Colour this line yellow.

The ..... line is 5 cm long.

The yellow line is ..... cm long.

 Colour this line yellow.

 Colour this line green.

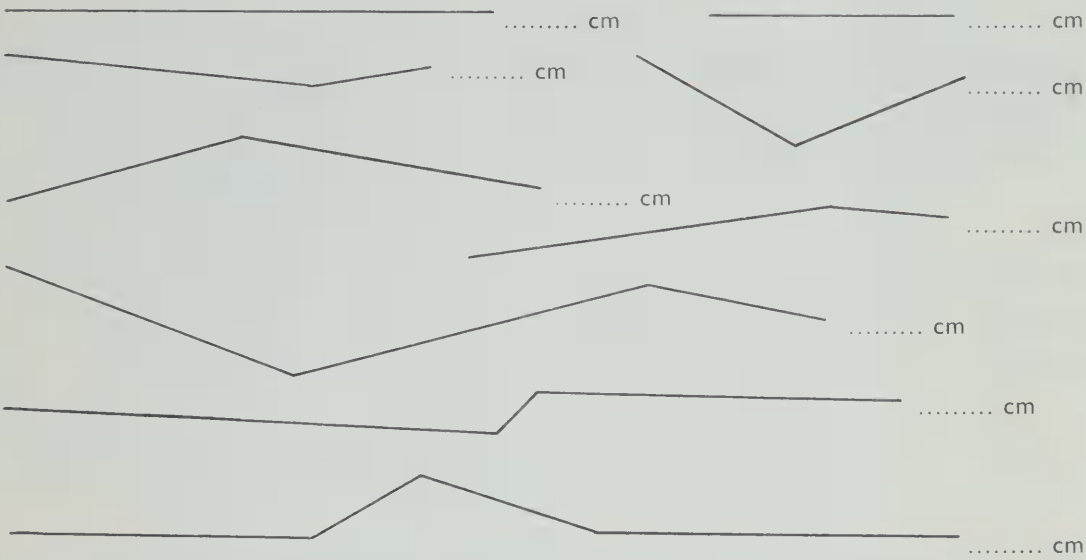
The green line is ..... cm long.

The ..... line is 6 cm long.

The yellow lines are ..... as long as the ..... lines.

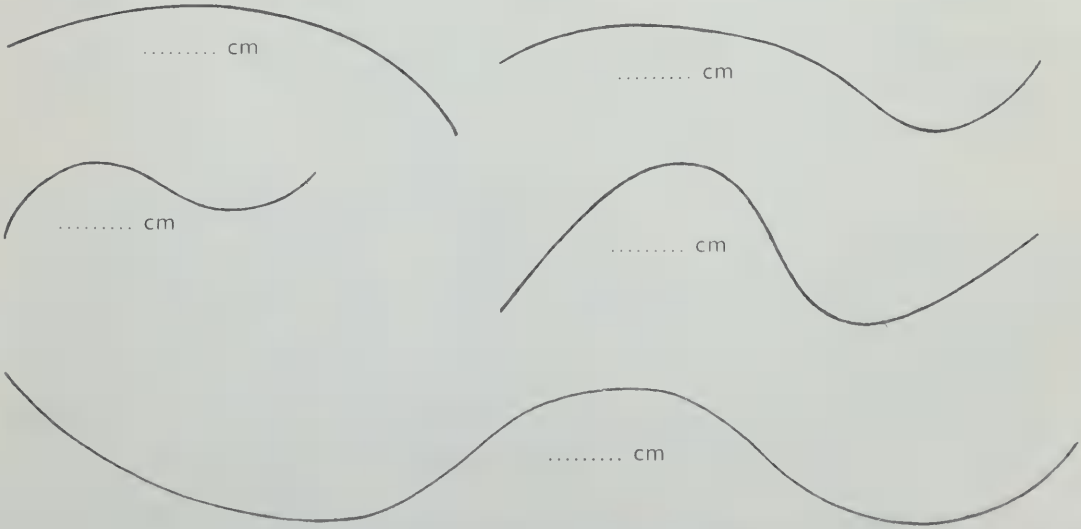
The ..... are half as long as the ..... lines.

Use your ruler. Measure the full length of these lines.



Use cotton or thin string to measure the length of these curved lines.

This is easier to do if you wet the cotton or string first.



A picture can be larger than the real object.

Measure this picture of a bee.

In the picture the bee is ..... cm wide and ..... cm high.

Smaller or bigger?

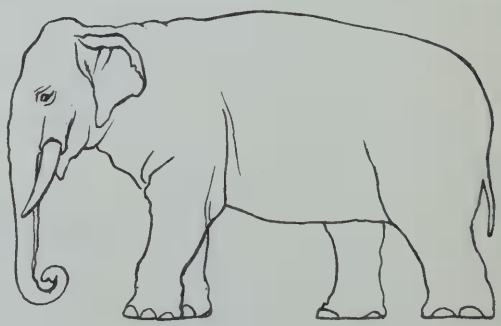
The picture is ..... than a real bee.

Colour the bee. What colours will you use?

A picture can be smaller than the real object.

Measure this picture of an elephant.

In the picture the elephant is ..... cm long and ..... cm high.



Smaller or bigger?

The picture is ..... than a real elephant.

Colour the elephant. What colour will you use?

Remember: A picture can be larger or smaller than the real object.

We know that a bee is small. We know that an elephant is big.
Sometimes a picture does not tell us about size.

How tall is the picture of this tree? Measure it.

The picture of the tree is ..... cm tall.

Yes or no?

Do we know how tall the real tree is? .....

Which is the taller tree?

How tall is this picture of a tree? Measure it.

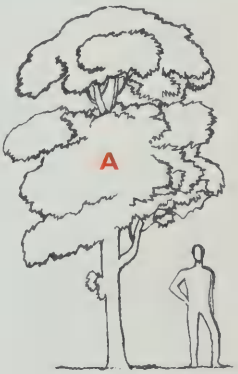
The picture of the tree is ..... cm tall.

How tall is the picture of the man? Measure him.

The picture of the man is ..... cm tall.

How tall is the tree? Compare the heights.

The tree is ..... times as tall as the man.



How tall is this picture of a tree? Measure it.

The picture of the tree is ..... cm tall.

How tall is the picture of the same man? Measure him.

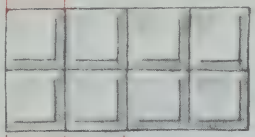
The picture of the man is ..... cm tall.

How tall is the tree? Compare the heights.

The tree is ..... times as tall as the man.

Which is really the taller tree, A or B? .....

Measure the picture of this slab of chocolate.



Scale 1 : 2

The picture of the slab is ..... cm long
and ..... cm wide.

How big is the real slab of chocolate?

We do not know yet, but we can find out.

Look at the word and figures under the picture.
These show that the picture has been drawn to scale.
The figures show that

1 cm on the picture represents 2 cm of real chocolate.

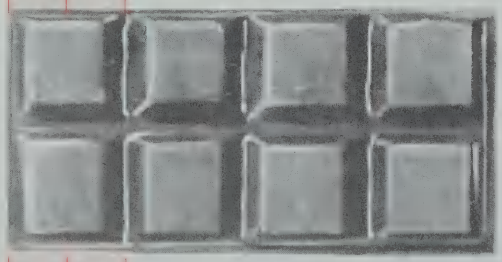
Now we can work out the size of the real slab of chocolate.

The picture is ..... cm long, so the real slab is
..... cm long.

The picture is ..... cm wide, so the real slab is
..... cm wide.

Here is the slab of chocolate in its real size.
Measure it.

The real slab of chocolate is ..... cm long and
..... cm wide.



How many times as big?

The real slab of chocolate is
..... as big as the
small picture.

Look at this shape. It is called a scale drawing.

Scale 1:4

Measure it.

The scale drawing is ..... cm long
and ..... cm wide.

Look at the scale figures below the drawing.
What do they mean?

They mean that 1 cm on the scale drawing represent ..... cm of real size.

They mean that the real size is ..... times as long and
..... times as wide as the scale drawing.

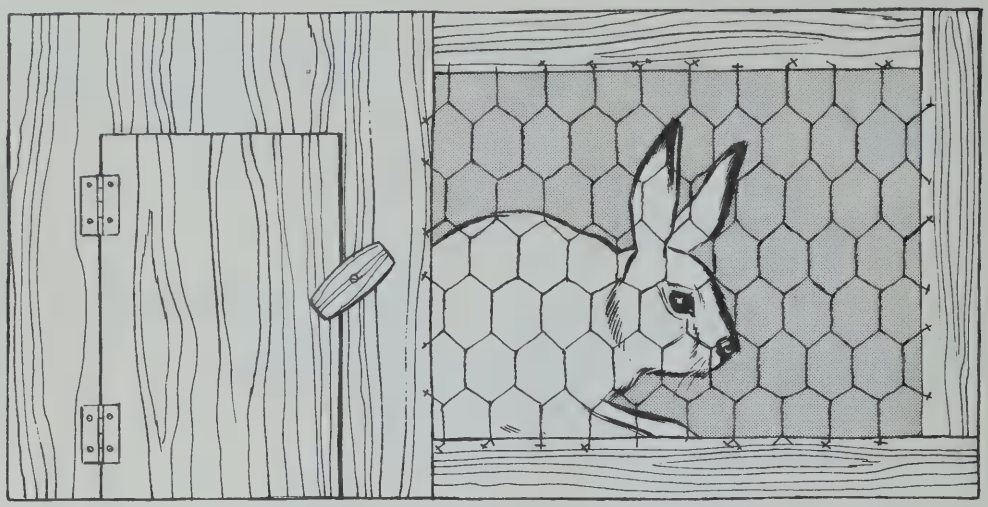
Colour the scale drawing. Use what colour you like.

How big is the real size?

Now draw the real size of the scale drawing in the space below.
One line has been drawn to help you start.

My real drawing is ..... cm long and ..... cm wide.

Here is a picture of a rabbit hutch. John keeps his rabbit in it.



Measure the picture of the rabbit hutch. How long is it? How high?

The picture of the rabbit hutch is ..... cm long and ..... cm high.

The real rabbit hutch is five times as big as the picture.

We write the scale of the picture as 1 : .....

How big is the real rabbit hutch?

The real rabbit hutch is ..... cm long and ..... cm high.

Measure the door of the rabbit hutch.

In the picture the door is ..... cm wide and ..... cm high.

The door of the real hutch is ..... cm wide and ..... cm high.

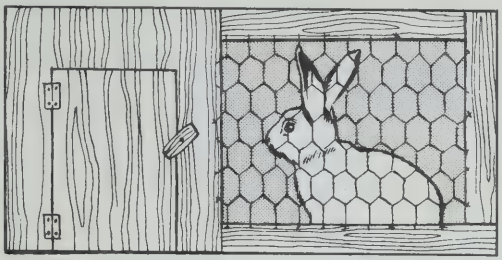
Measure the wire-netted window of the rabbit hutch.

In the picture the window is ..... cm wide and ..... cm high.

The window of the real rabbit hutch is ..... cm wide and ..... cm high.

Colour the picture of the rabbit hutch. What colours will you use?

Here is a smaller picture of John's rabbit hutch.



Measure the picture.

The picture of the rabbit hutch is ..... cm long and ..... cm high.

Remember: The real rabbit hutch is ..... cm long and ..... cm high.

In the picture 1 cm represents ..... cm of the real rabbit hutch.

The real rabbit hutch is ..... times as big as the picture.

We write the scale of the picture as 1 : .....

Measure the door of the rabbit hutch.

In the picture the door is ..... cm wide and ..... cm high.

The door of the real hutch is ..... cm wide and ..... cm high.

Measure the window of the rabbit hutch.

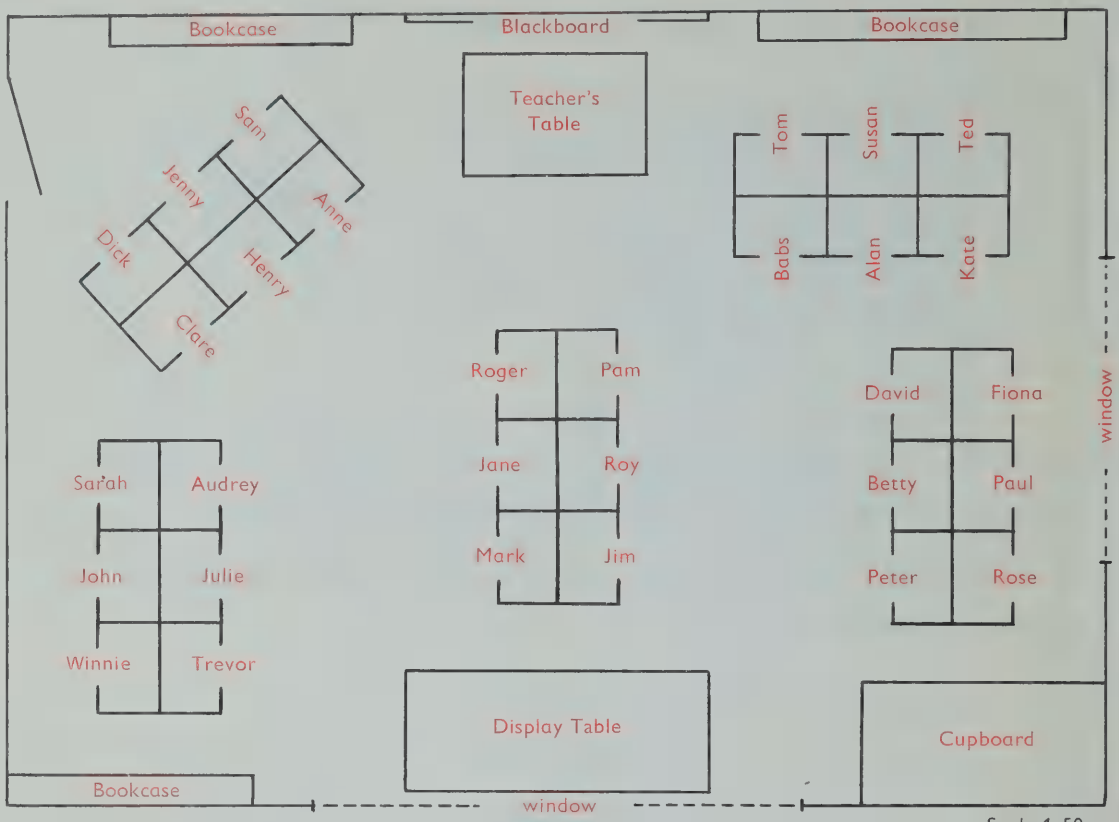
In the picture the window is ..... cm wide and ..... cm high.

The window of the real hutch is ..... cm wide and ..... cm high.

You have worked out the size of the real hutch from two pictures of different sizes.

Something to think about:

The size of a picture or drawing is not important.
If you know the scale you can work out the real size.



Scale 1:50

Look at this plan of John's classroom. What can we learn from it?

How many cupboards are there? .....

How many bookcases are there? .....

How many tables are there? .....

How many windows are there? .....

The desks are in groups. There are ..... groups, each with ..... desks.

How many pupils' desks are there altogether? .....

How many boys are there in the class? .....

How many girls are there in the class? .....

Who sits nearest the door? .....

Who sits nearest the cupboard? ..... and .....

Who sits between David and Peter? .....

Who sits on the left of Julie? .....

Who sits on the right of Jane? .....

Who sits in front of the blackboard? .....

Which four girls sit between two boys? ....., ..., ... and .....

Look at the scale figure below the plan.

It means that the plan is ..... times smaller than the real classroom.

It means that 1 cm on the plan represents ..... cm on the ground.

Use your ruler. Find the sizes in the real classroom.

How big is the cupboard?

It is ..... cm long and ..... cm wide.

How big is the teacher's table?

It is ..... cm long and ..... cm wide.

How big is the display table?

It is ..... cm long and ..... cm wide.

How long is the longest bookcase?

It is ..... cm long.

How wide are the two windows?

They are ..... cm and ..... cm wide.

Look at your ruler.

How many centimetres does it show? ..... cm
Draw a line 1 cm long.

How long is a metre?
A metre is the next longest measurement of length. It is longer than your ruler.
A metre is 100 cm long.
Use your ruler. Mark out a line 100 cm long on the floor of your classroom.
You have drawn a line 1 metre long.

How do we write measurements in metres?
The line you have drawn is 100 cm long. We write it as 1 m.
Make another line 110 cm long.
This line is 1 m and 10 cm long. We write it as 1.10 m.
Make another line 125 cm long.
This line is 1 m and 25 cm long. We write it as 1.25 m.
It is very easy.
The figure before the dot is the number of metres.
The figure after the dot is the number of extra centimetres.

Fill in the missing figures.

110 cm = ...m	125 cm = ...m	245 cm = ...m
258 cm = ...m	346 cm = ...m	432 cm = ...m
..... cm = 1.15 m	..... cm = 1.75 m	..... cm = 2.25 m
..... cm = 2.76 m	..... cm = 3.42 m	..... cm = 4.52 m

Measuring in metres.

Make a measuring stick 1 metre long. Use your measuring stick and your ruler to measure your classroom.

My classroom is ..... m long and ..... m wide.

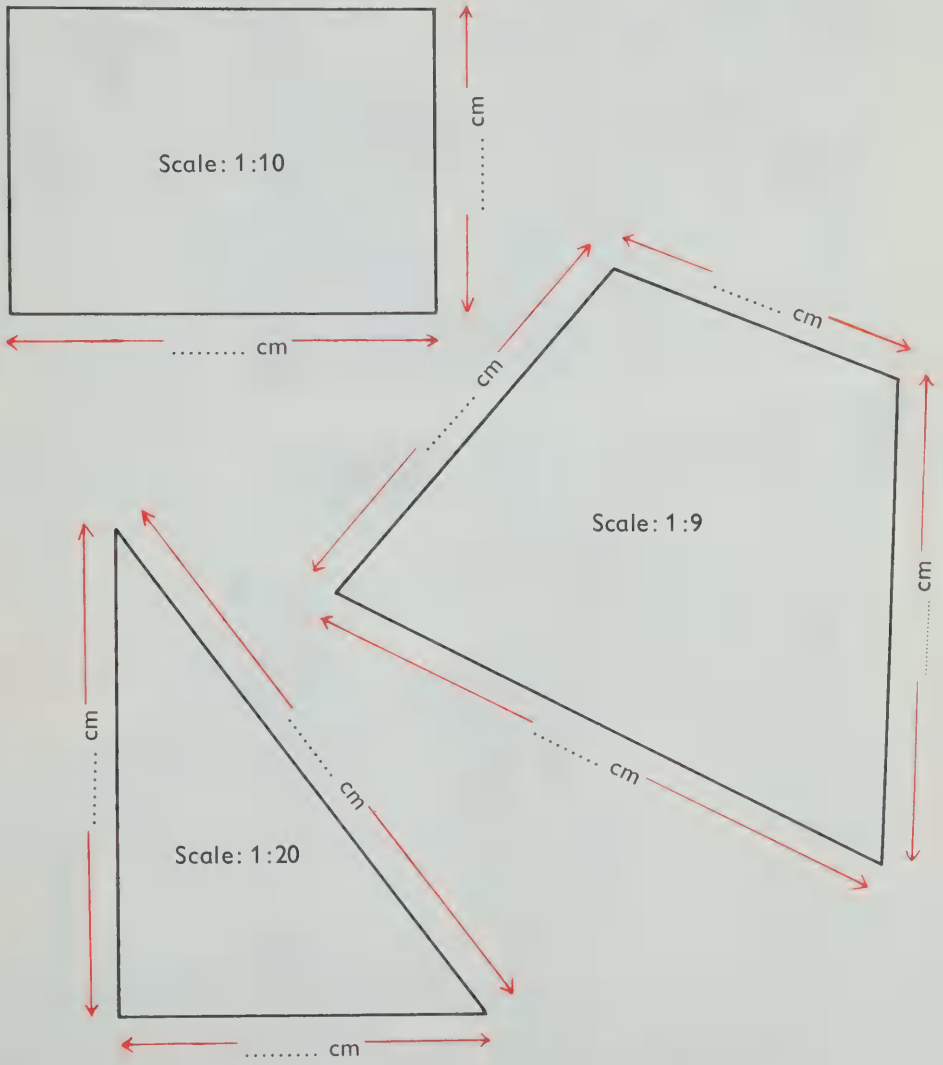
The window is ..... m wide.

The door is ..... m high.

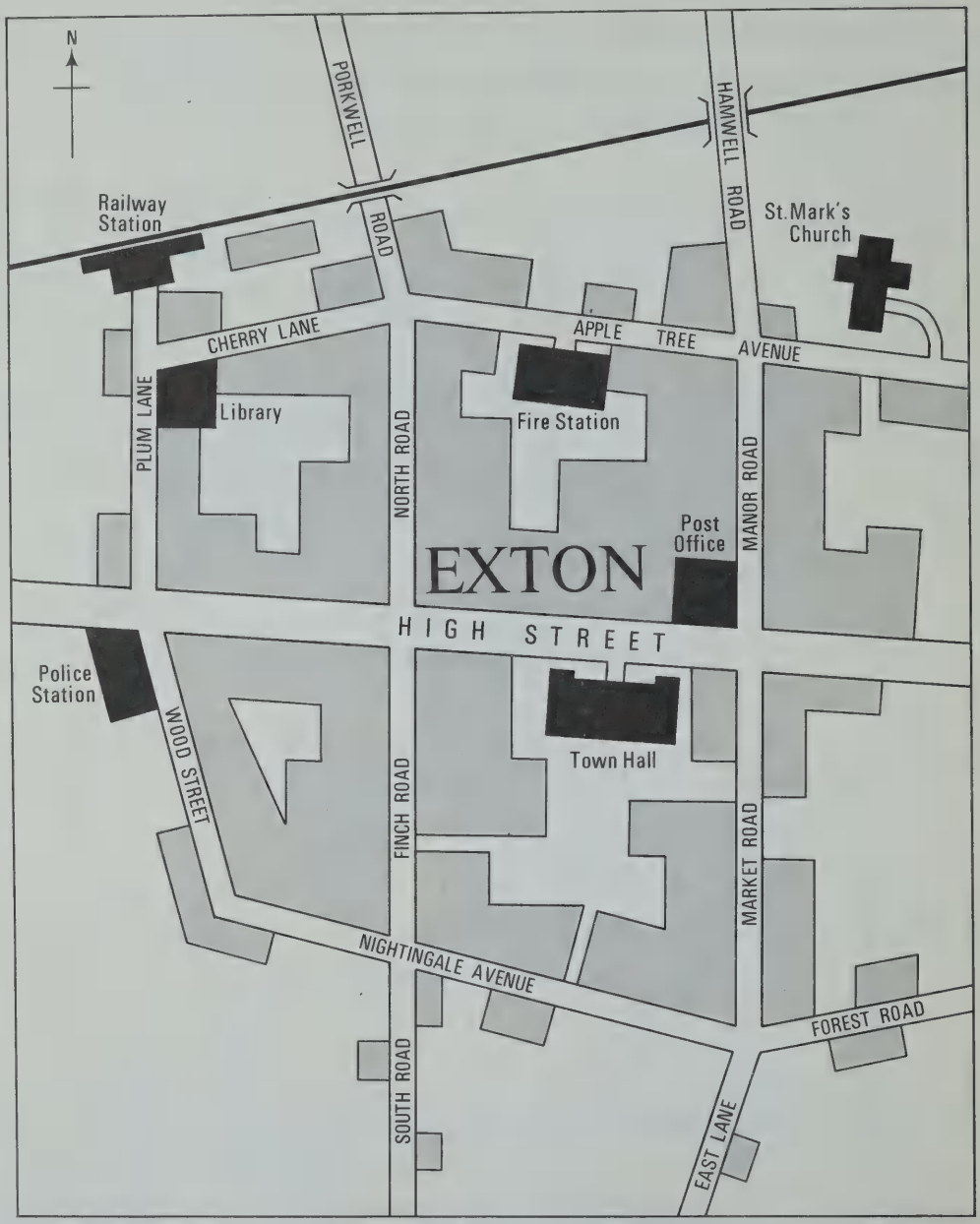
The table is ..... m long.

Each of these shapes is a scale drawing. The scales are shown inside the shapes.

Use your ruler. Measure the sides of each shape, then look at the scale and write in the lengths of the sides of the real shapes.



Colour the shapes when you have finished measuring them.



Scale: 1 cm represents 20 metres

This is a street plan of Exton, a small town.
The most important buildings are printed in black. Other buildings are printed in grey.

Which do you think is the most important road in Exton? .....

Find Porkwell Road. Does this road go over or under the railway? .....

Find Hamwell Road. Does this road go over or under the railway? .....

Use your ruler. Look at the scale under the map.

How far is the Railway Station from the High Street? ..... metres.

How far is the Church entrance from the Fire Station entrance? ..... metres.

How long is Cherry Lane? ..... metres.

How far is it from the Library to the Church entrance? ..... metres.
(You will need to measure more than one road.)

How far is it from the Police Station to the Town Hall entrance? ..... metres.

How far is it, in a straight line, from the Police Station to the Church entrance? ..... metres.

About how far is it by road? (Which way will you go?) ..... metres.

How far is it, in a straight line, from the Railway Station to the entrance to the Town Hall? ..... metres.

About how far is it by road? ..... metres.

Now read this question and answer:

Question: How do I get from the Railway Station to the Town Hall, please?

Answer: Walk from the Station along Plum Lane until you reach the High Street. Turn left along the High Street and walk to the first crossroads. Then you will see the Town Hall about 60 metres away on your right.

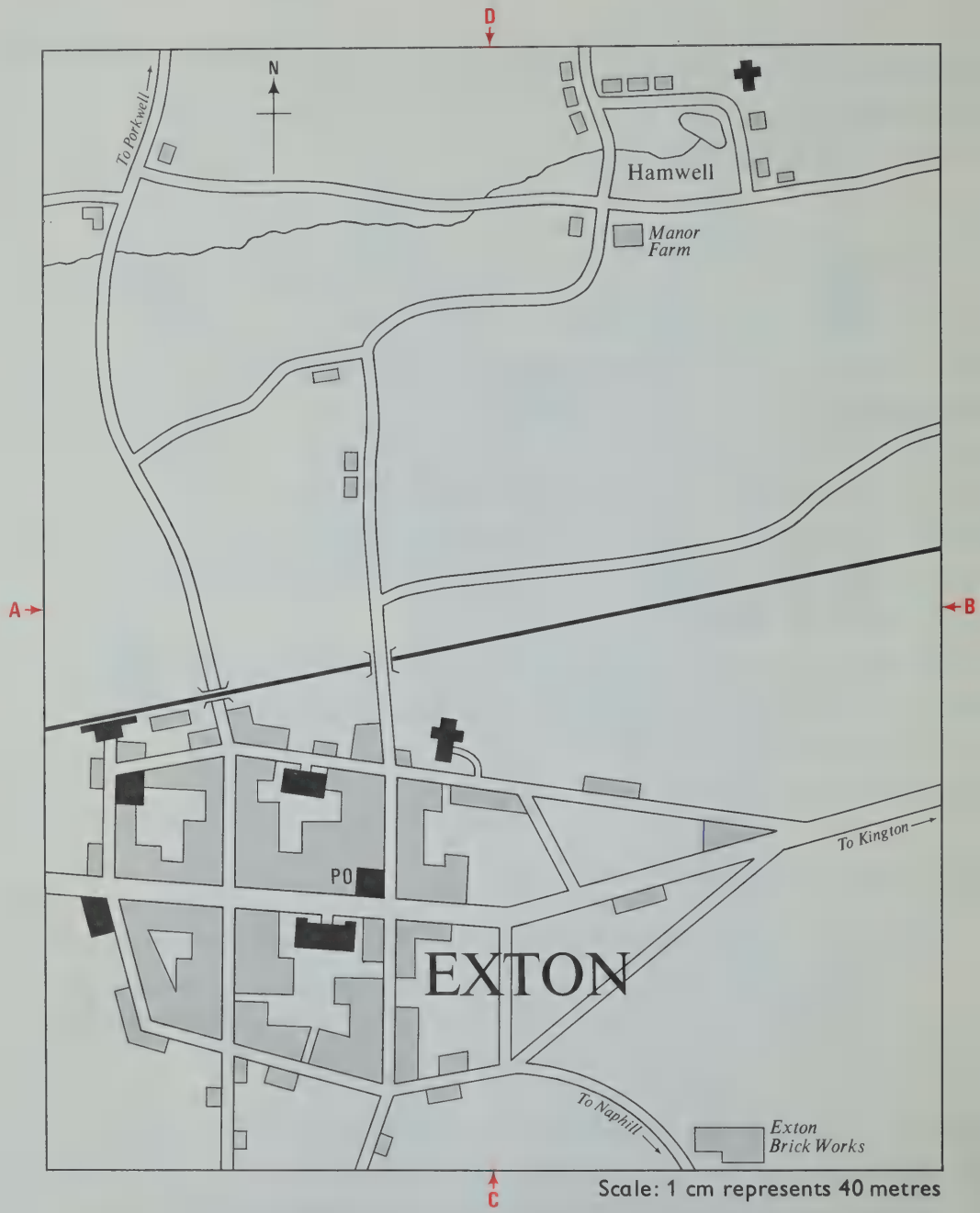
Use the plan to play this 'question and answer' game with your friends.

Here are some questions to help you to start:

How do I get from the Police Station to the Post Office, please?

How do I get from the Post Office to the Library, please?

Can you tell me the way from the Church to the Town Hall, please?



Scale: 1 cm represents 40 metres

This is a plan of Exton and Hamwell.
It is drawn to a smaller scale than the street plan of Exton on page 26.
It shows very much more ground on a plan of the same size.

Use your ruler. How far is it in a straight line from

Exton Railway Station to the crossroads at Hamwell? ..... metres.

Exton Brick Works to Exton Post Office? ..... metres.

Manor Farm, Hamwell, to the Church in Exton? ..... metres.

Use cotton or string to find out how far these journeys are by road.

The plan tells which roads lead from Exton to three other towns or villages.

Does it tell you how far these places are from Exton? .....

Which of these three places do you think is likely to be the most important? ..... Can you think of two reasons?

Lay your ruler across the plan from point A→ to point ←B.
Rule a line 8 cm long from point A→.

Turn the book sideways. Lay your ruler on the plan from point C→ to point ←D. Rule a line 10 cm long from point C→.

Look at the small plan you have ruled in the corner of the bigger plan.
Look at the street plan of Exton on page 26.

The scale of Exton on page 26 is 1 cm represents ..... metres.

The scale of Exton on page 28 is 1 cm represents ..... metres.

Which plan shows most detail of Exton, page 26 or page 28? .....

Fill in the missing words and figures.

small	20	smaller	40	larger

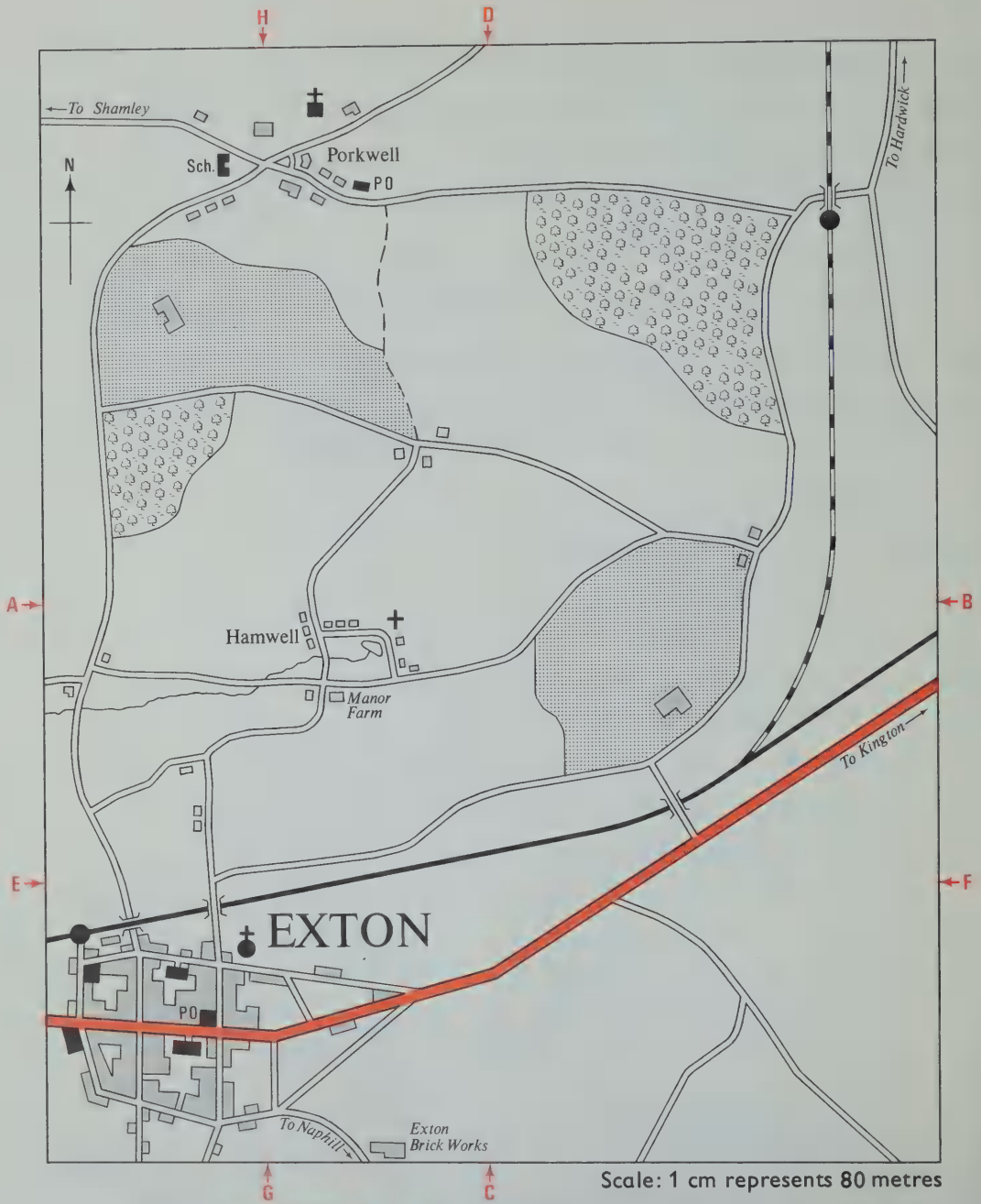
On the street plan of Exton on page 26 1 cm represents ..... metres.

On the plan of Exton and Hamwell on page 28 1 cm represents ..... metres.

The plan of Exton and Hamwell is drawn to a ..... scale.

A large-scale plan shows much detail on a ..... piece of ground.

A small-scale plan shows less detail on a ..... piece of ground.



Scale: 1 cm represents 80 metres

Roads: First class
Other roads

Railway: (double track) and station
(single track) and station

Footpaths: _ _ _ _ _

Churches: with spire with tower without either

Post Office: PO

Woods

Parks

This is a map. Maps are drawn on a smaller scale than plans.
They usually show much more ground than a plan.
On a map, it is impossible to show the base shape of every object on the ground.
To save overcrowding, small signs (or symbols) are used on maps to represent objects on the ground.

Look for the meanings of these signs below the map.

Is there a Post Office at Hamwell? ..... Is there one at Porkwell? .....

If you walk from Hamwell to Porkwell can you shorten the road journey by using a footpath? .....

Which village has a church with a tower? .....

Look for the single track railway line. To which town or village do you think this might lead? .....

Look at the scale. How far is it, in a straight line, from

the Railway Station at Exton to the school at Porkwell? ..... metres.

the Brick Works at Exton to Manor Farm at Hamwell? ..... metres.

the Post Office at Porkwell to the Post Office at Exton? ..... metres.

Use cotton to find the distances between these places by road.

Lay your ruler across the map from point A→ to point ←B.
Rule a line 8 cm long from point A→.

Lay your ruler on the map from point C→ to point ←D.
Rule a line 10 cm long from point C→.

Look at the small map you have ruled in the corner of the bigger map.
Look at the plan of Exton and Hamwell on page 28.

Lay your ruler across the map from point E→ to point ←F.
Rule a line 4 cm long from point E→.

Lay your ruler on the map from point G→ to point ←H.
Rule a line 5 cm long from point G→.

Look at the smallest map you have made in the corner of the big map.
Look at the street plan of Exton on page 26.

Let's look back.

Look back at pages 26, 28 and 30.

Which page would you use to find your way around Exton? Page .....

Which page would you use to find the nearest village to Exton? Page .....

Which page would you use to find out most about the countryside around Exton? Page .....

A small-scale map shows the most ground. Which page is this? Page .....

A large-scale map shows the least ground. Which page is this? Page .....

Let's look forward.

In this book you have measured in centimetres and metres.
In your next book you may need to use two other measures, one very small and the other very big.

Look at your ruler. Can you see that each centimetre is divided into ten small parts? These are millimetres. We write them as mm.

The big measurement is the kilometre. We write it as km. There are 1000 metres in a kilometre.

Now you can complete these figures:

There are ..... mm in a centimetre.

There are ..... cm in a metre.

There are ..... m in a kilometre.

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